

SEQUENCE LISTING

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<120> A BINDING MOTIF OF A RECEPTOR

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<140> US 10/099,895

<141> 2002-03-14

<150> PCT/AU00/01118

<151> 2000-09-15

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<170> PatentIn version 3.1

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Leu Arg Cys Tyr Asn Asp Tyr Thr Ser His Ile Thr Cys Arg Trp Ala 35 40 45

Asp Thr Gln Asp Ala Gln Arg Leu Val Asn Val Thr Leu Ile Arg Arg 50 55 60

Val Asn Glu Asp Leu Leu Glu Pro Val Ser Cys Asp Leu Ser Asp Asp 65 70 75 80

Met Pro Trp Ser Ala Cys Pro His Pro Arg Cys Val Pro Arg Cys
85 90 95

Val Ile Pro Cys Gln Ser Phe Val Val Thr Asp Val Asp Tyr Phe Ser 100 105 110

Phe Gln Pro Asp Arg Pro Leu Gly Thr Arg Leu Thr Val Thr Leu Thr

115 120 125

Gln His Val Gln Pro Pro Glu Pro Arg Asp Leu Gln Ile Ser Thr Asp 130 135 140

Gln Asp His Phe Leu Leu Thr Trp Ser Val Ala Leu Gly Ser Pro Gln 145 150 150 160

Ser His Trp Leu Ser Pro Gly Asp Leu Glu Phe Glu Val Val Tyr Lys 165 170 175

Arg Leu Gln Asp Ser Trp Glu Asp Ala Ala Ile Leu Leu Ser Asn Thr 180 185 190

Ser Gln Ala Thr Leu Gly Pro Glu His Leu Met Pro Ser Ser Thr Tyr 195 200 205

Val Ala Arg Val Arg Thr Arg Leu Ala Pro Gly Ser Arg Leu Ser Gly 210 215

Arg Pro Ser Lys Trp Ser Pro Glu Val Cys Trp Asp Ser Gln Pro Gly 235 235

Asp Glu Ala Gln Pro Gln Asn Leu Glu Cys Phe Phe Asp Gly Ala Ala 245 250 255

Val Leu Ser Cys Ser Trp Glu Val Arg Lys Glu Val Ala Ser Ser Val 260 265 270

Ser Phe Gly Leu Phe Tyr Lys Pro Ser Pro Asp Ala Gly Glu Glu Glu 275

Cys Ser Pro Val Leu Arg Glu Gly Leu Gly Ser Leu His Thr Arg His 290 295 300

His Cys Gln Ile Pro Val Pro Asp Pro Ala Thr His Gly Gln Tyr Ile 305 310 315

Val Ser Val Gln Pro Arg Arg Ala Glu Lys His Ile Lys Ser Ser Val 325 330 335

Asn Ile Gln Met Ala Pro Pro Ser Leu Asn Val Thr Lys Asp Gly Asp 340 345

Ser Tyr .Ser Leu Arg Trp Glu Thr Met Lys Met Arg Tyr Glu His Ile 355 $$360\ \cdot $$ 365

Asp His Thr Phe Glu Ile Gln Tyr Arg Lys Asp Thr Ala Thr Trp Lys 370 375 380

Asp Ser Lys Thr Glu Thr Leu Gln Asn Ala His Ser Met Ala Leu Pro 385 390 395 400

Ala Leu Glu Pro Ser Thr Arg Tyr Trp Ala Arg Val Arg Val Arg Thr 405 410 415

Ser Arg Thr Gly Tyr Asn Gly Ile Trp Ser Glu Trp Ser Glu Ala Arg 420 425 430

Ser Trp Asp Thr Glu Ser Val Leu Pro Met Trp Val Leu Ala Leu Ile 435 440 445

Val Ile Phe Leu Thr Ile Ala Val Leu Leu Ala Leu Arg Phe Cys Gly 450 455 460

Ile Tyr Gly Tyr Arg Leu Arg Arg Lys Trp Glu Glu Lys Ile Pro Asn 465 470 475 480

Pro Ser Lys Ser His Leu Phe Gln Asn Gly Ser Ala Glu Leu Trp Pro 485 490 495

Pro Gly Ser Met Ser Ala Phe Thr Ser Gly Ser Pro Pro His Gln Gly 500 505 510

Pro Trp Gly Ser Arg Phe Pro Glu Leu Glu Gly Val Phe Pro Val Gly 515 520 525

Phe Gly Asp Ser Glu Val Ser Pro Leu Thr Ile Glu Asp Pro Lys His 530 535 540

Val Cys Asp Pro Pro Ser Gly Pro Asp Thr Thr Pro Ala Ala Ser Asp 545 550 560

Leu Pro Thr Glu Gln Pro Pro Ser Pro Gln Pro Gly Pro Pro Ala Ala 565 570 575

Ser His Thr Pro Glu Lys Gln Ala Ser Ser Phe Asp Phe Asn Gly Pro 580 585 590

Tyr Leu Gly Pro Pro His Ser Arg Ser Leu Pro Asp Ile Leu Gly Gln 595 600 605

Pro Glu Pro Pro Gln Glu Gly Gly Ser Gln Lys Ser Pro Pro Pro Gly 610 615

Ser Leu Glu Tyr Leu Cys Leu Pro Ala Gly Gly Gln Val Gln Leu Val 625 630 635 640

Pro Leu Ala Gln Ala Met Gly Pro Gly Gln Ala Val Glu Val Glu Arg 645 650 655

Arg Pro Ser Gln Gly Ala Ala Gly Ser Pro Ser Leu Glu Ser Gly Gly 660 665 670

Gly Pro Ala Pro Pro Ala Leu Gly Pro Arg Val Gly Gly Gln Asp Gln 675 685

Lys Asp Ser Pro Val Ala Ile Pro Met Ser Ser Gly Asp Thr Glu Asp 690 695 700

Pro Gly Val Ala Ser Gly Tyr Val Ser Ser Ala Asp Leu Val Phe Thr 705 710 715 720

Pro Asn Ser Gly Ala Ser Ser Val Ser Leu Val Pro Ser Leu Gly Leu 725 730 735

Pro Ser Asp Gln Thr Pro Ser Leu Cys Pro Gly Leu Ala Ser Gly Pro 740 745 750

Pro Gly Ala Pro Gly Pro Val Lys Ser Gly Phe Glu Gly Tyr Val Glu 755 760 765

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Lys Asn Leu Asp Gln Ala Phe Gln Val Lys Lys Pro Pro Gly Gln Ala
                        855
\label{thm:condition} \mbox{Val Pro Gln Val Pro Val Ile Gln Leu Phe Lys Ala Leu Lys Gln Gln}
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Glu Pro Ser Pro Pro Ser Ile His Pro Gly Lys Ser Asp Leu Ile Val 35 40 45

Arg Val Gly Asp Glu Ile Arg Leu Leu Cys Thr Asp Pro Gly Phe Val 50 55 60

Lys Trp Thr Phe Glu Ile Leu Asp Glu Thr Asn Glu Asn Lys Gln Asn 65 70 75 80

Glu Trp Ile Thr Glu Lys Ala Glu Ala Thr Asn Thr Gly Lys Tyr Thr 85 90 95

Cys Thr Asn Lys His Gly Leu Ser Asn Ser Ile Tyr Val Phe Val Arg 100 105 110

Asp Pro Ala Lys Leu Phe Leu Val Asp Arg Ser Leu Tyr Gly Lys Glu 115 120 125

Asp Asn Asp Thr Leu Val Arg Cys Pro Leu Thr Asp Pro Glu Val Thr 130 135 140

Asn Tyr Ser Leu Lys Gly Cys Gln Gly Lys Pro Leu Pro Lys Asp Leu 145 150 155 160

Arg Phe Ile Pro Asp Pro Lys Ala Gly Ile Met Ile Lys Ser Val Lys 165 170 175

Arg Ala Tyr His Arg Leu Cys Leu His Cys Ser Val Asp Gln Glu Gly 180 185 190

Lys Ser Val Leu Ser Glu Lys Phe Ile Leu Lys Val Arg Pro Ala Phe 195 200 205

Lys Ala Val Pro Val Val Ser Val Ser Lys Ala Ser Tyr Leu Leu Arg 210 215 220

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Glu	Lys	Tyr	Asn 260	Ser	Trp	His	His	Gly 265	Asp	Phe	Asn	Tyr	Glu 270	Arg	Gln
Aļa	Thr	Leu 275	Thr	Ile	Ser	Ser	Ala 280	Arg	Val	Asn	Asp	Ser 285	Gly	Val	Phe
Met	Cys 290	Tyr	Ala	Asn	Asn	Thr 295	Phe	Gly	Ser	Ala	Asn 300	Val	Thr	Thr	Thr
Leu 305		Val	Val	Asp	Lys 310	Gly	Phe	Ile	Asn	Ile 315	Phe	Pro	Met	Ile	Asn 320
Thr	Thr	Val	Phe	Val 325		Asp	Gly	Glu	Asn 330	Val	Asp	Leu	Ile	Val 335	Glu
Tyr	Glu	Ala	Phe 340		Lys	Pro	Glu	His 345	Gln	Gln	Trp	Ile	Tyr 350	Met	Asn
Arg	, Thr	Phe 355		Asp	Lys	Trp	Glu 360	Asp	Tyr	Pro	Lys	Ser 365	Glu	ı Asn	Glu
Ser	370		e Arg	Туг	. Val	. Ser 375	Glu	ı Leu	His	i Leu	380	Arg	Leu	ı Lys	s Gly
Th:		ı Gly	/ Gly	Th:	7 Tyr 390		Ph∈	e Leu	ı Val	Ser 395	Asr	n Ser	Asp	o Val	L Asn 400
Ala	a Ala	a Ile	e Ala	40!		n Val	. Туз	c Val	Ası 41	n Thi	r Ly:	s Pro	o Gli	u Ile 41	e Leu 5
Th	r Ty:	r Ası	9 Arg 420		u Val	l Asr	n Gl	y Met 425	Le	u Gli	n Cy	s Vai	1 Al 43	a Al	a Gly
Ph	e Pr	o Gl:		o Th	r Il	e Ası	o Tri	р Ту:	r Ph	е Су	s Pr	o Gl	y Th 5	r Gl	u Gln

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	Lys	Glu	Gln 515	Ile	His	Pro	His	Thr 520	Leu	Phe	Thr	Pro	Leu 525	Leu	Ile	Gly
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	Tyr 545	Lys	Tyr	Leu	Gln	Lys 550	Pro	Met	Tyr	Glu	Val 555	Gln	Trp	Lys	Val	Val 560
	Glu	Glu	Ile	Asn	Gly 565	Asn	Asn	Tyr	Val	Tyr 570	Ile	Asp	Pro	Thr	Gln 575	Leu
	Pro	Tyr	Asp	His 580	Lys	Trp	Glu	Phe	Pro 585	Arg	Asn	Arg	Leu	Ser 590	Phe	Gly
	Lys	Thr	Leu 595	Gly	Ala	Gly	Ala	Phe 600	Gly	Lys	Val	Val	Glu 605	Ala	Thr	Ala
	Tyr	Gly 610	Leu	Ile	Lys	Ser	Asp 615	Ala	Ala	Met	Thr	Val 620	Ala	Val	Lys	Met
	Leu 625	Lys	Pro	Ser	Ala	His 630	Leu	Thr	Glu	Arg	Glu 635	Ala	Leu	Met	Ser	Glu 640
-	Leu	Lys	Val	Leu	Ser 645	Tyr	Leu	Gly	Asn	His 650	Met	Asn	Ile	Val	Asn 655	Leu
	Leu	Gly	Ala	Cys 660	Thr	Ile	Gly	Gly	Pro 665	Thr	Leu	Val	Ile	Thr 670	Glu	Tyr
	Cys	Cys	Tyr	Gly	Asp	Leu	Leu	Asn	Phe	Leu	Arg	Arg	Lys	Arg	Asp	Ser

,

.

Phe Ile Cys Ser Lys Gln Glu Asp His Ala Glu Ala Ala Leu Tyr Lys 690 695 . 700

Asn Leu Leu His Ser Lys Glu Ser Ser Cys Ser Asp Ser Thr Asn Glu 705 710 715 720

Tyr Met Asp Met Lys Pro Gly Val Ser Tyr Val Val Pro Thr Lys Ala 725 730 735

Asp Lys Arg Arg Ser Val Arg Ile Gly Ser Tyr Ile Glu Arg Asp Val 740 745 750

Thr Pro Ala Ile Met Glu Asp Asp Glu Leu Ala Leu Asp Leu Glu Asp 755 760 765

Leu Leu Ser Phe Ser Tyr Gln Val Ala Lys Gly Met Ala Phe Leu Ala 770 775780

Ser Lys Asn Cys Ile His Arg Asp Leu Ala Ala Arg Asn Ile Leu Leu 785 790 795 800

Thr His Gly Arg Ile Thr Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp 805 810 815

Ile Lys Asn Asp Ser Asn Tyr Val Val Lys Gly Asn Ala Arg Leu Pro 820 825 830

Val Lys Trp Met Ala Pro Glu Ser Ile Phe Asn Cys Val Tyr Thr Phe 835 840 845

Glu Ser Asp Val Trp Ser Tyr Gly Ile Phe Leu Trp Glu Leu Phe Ser 850 860

Leu Gly Ser Ser Pro Tyr Pro Gly Met Pro Val Asp Ser Lys Phe Tyr 865 870 875 880

Lys Met Ile Lys Glu Gly Phe Arg Met Leu Ser Pro Glu His Ala Pro 885 890 895

Ala Glu Met Tyr Asp Ile Met Lys Thr Cys Trp Asp Ala Asp Pro Leu 900 905 910

Lys Arg Pro Thr Phe Lys Gln Ile Val Gln Leu Ile Glu Lys Gln Ile 915 920 $\dot{}$ 925

Ser Glu Ser Thr Asn His Ile Tyr Ser Asn Leu Ala Asn Cys Ser Pro 930 935 940

Asn Arg Gln Lys Pro Val Val Asp His Ser Val Arg Ile Asn Ser Val 945 950 955 960

Gly Ser Thr Ala Ser Ser Ser Gln Pro Leu Leu Val His Asp Asp Val 965 970 975

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Ser Asp Ser Glu Pro Leu Lys Cys Phe Ser Arg Thr Phe Glu Asp Leu 35 40 45

Thr Cys Phe Trp Asp Glu Glu Glu Ala Ala Pro Ser Gly Thr Tyr Gln 50 60

Leu Leu Tyr Ala Tyr Pro Arg Glu Lys Pro Arg Ala Cys Pro Leu Ser 70 75 80

Ser Gln Ser Met Pro His Phe Gly Thr Arg Tyr Val Cys Gln Phe Pro 85 90 95

Asp Gln Glu Val Arg Leu Phe Phe Pro Leu His Leu Trp Val Lys $100 \hspace{1.5cm} 105 \hspace{1.5cm} 110 \hspace{1.5cm}$

Asn Val Phe Leu Asn Gln Thr Arg Thr Gln Arg Val Leu Phe Val Asp 115 120 125

Ser Val Gly Leu Pro Ala Pro Pro Ser Ile Ile Lys Ala Met Gly Gly Ser Gln Pro Gly Glu Leu Gln Ile Ser Trp Glu Glu Pro Ala Pro Glu Ile Ser Asp Phe Leu Arg Tyr Glu Leu Arg Tyr Gly Pro Arg Asp Pro Lys Asn Ser Thr Gly Pro Thr Val Ile Gln Leu Ile Ala Thr Glu Thr Cys Cys Pro Ala Leu Gln Arg Pro His Ser Ala Ser Ala Leu Asp Gln Ser Pro Cys Ala Gln Pro Thr Met Pro Trp Gln Asp Gly Pro Lys Gln Thr Ser Pro Ser Arg Glu Ala Ser Ala Leu Thr Ala Glu Gly Gly Ser Cys Leu Ile Ser Gly Leu Gln Pro Gly Asn Ser Tyr Trp Leu Gln Leu Arg Ser Glu Pro Asp Gly Ile Ser Leu Gly Gly Ser Trp Gly Ser Trp Ser Leu Pro Val Thr Val Asp Leu Pro Gly Asp Ala Val Ala Leu Gly Leu Gln Cys Phe Thr Leu Asp Leu Lys Asn Val Thr Cys Gln Trp Gln Gln Gln Asp His Ala Ser Ser Gln Gly Phe Phe Tyr His Ser Arg Ala Arg Cys Cys Pro Arg Asp Arg Tyr Pro Ile Trp Glu Asn Cys Glu Glu Glu Glu Lys Thr Asn Pro Gly Leu Gln Thr Pro Gln Phe Ser Arg Cys His Phe Lys Ser Arg Asn Asp Ser Ile Ile His Ile Leu Val Glu Val 355 360 365

Thr Thr Ala Pro Gly Thr Val His Ser Tyr Leu Gly Ser Pro Phe Trp 370 375 . 380

- Ile His Gln Ala Val Arg Leu Pro Thr Pro Asn Leu His Trp Arg Glu 385 390 395 400
- Ile Ser Ser Gly His Leu Glu Leu Glu Trp Gln His Pro Ser Ser Trp 405 410 415
- Ala Ala Gln Glu Thr Cys Tyr Gln Leu Arg Tyr Thr Gly Glu Gly His 420 425 430
- Gln Asp Trp Lys Val Leu Glu Pro Pro Leu Gly Ala Arg Gly Gly Thr 435 440 445
- Leu Glu Leu Arg Pro Arg Ser Arg Tyr Arg Leu Gln Leu Arg Ala Arg 450 455 460
- Leu Asn Gly Pro Thr Tyr Gln Gly Pro Trp Ser Ser Trp Ser Asp Pro 465 470 475 480
- Thr Arg Val Glu Thr Ala Thr Glu Thr Ala Trp Ile Ser Leu Val Thr 485 490 495
- Ala Leu His Leu Val Leu Gly Leu Ser Ala Val Leu Gly Leu Leu Leu 500 505 510
- Leu Arg Trp Gln Phe Pro Ala His Tyr Arg Arg Leu Arg His Ala Leu 515 520 525
- Trp Pro Ser Leu Pro Asp Leu His Arg Val Leu Gly Gln Tyr Leu Arg 530 535 540
- Asp Thr Ala Ala Leu Ser Pro Pro Lys Ala Thr Val Ser Asp Thr Cys 545 550 560
- Glu Glu Val Glu Pro Ser Leu Leu Glu Ile Leu Pro Lys Ser Ser Glu 565 570 575
- Arg Thr Pro Leu Pro Leu Cys Ser Ser Gln Ala Gln Met Asp Tyr Arg 580 585 590

Arg Leu Gln Pro Ser Cys Leu Gly Thr Met Pro Leu Ser Val Cys Pro 595 600 605

Pro Met Ala Glu Ser Gly Ser Cys Cys Thr Thr His Ile Ala Asn His 610 615 620

Ser Tyr Leu Pro Leu Ser Tyr Trp Gln Gln Pro 625 630 635

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Leu Gly Thr Glu Pro Leu Asn Cys Phe Ser Gln Thr Phe Glu Asp Leu 35 40 45

Thr Cys Phe Trp Asp Glu Glu Glu Ala Ala Pro Ser Gly Thr Tyr Gln 50 55 60

Leu Leu Tyr Ala Tyr Arg Gly Glu Lys Pro Arg Ala Cys Pro Leu Tyr 65 70 75 80

Ser Gln Ser Val Pro Thr Phe Gly Thr Arg Tyr Val Cys Gln Phe Pro $85 \\ 90 \\ 95$

Ala Gln Asp Glu Val Arg Leu Phe Phe Pro Leu His Leu Trp Val Lys 100 105 110

Asn Val Ser Leu Asn Gln Thr Leu Ile Gln Arg Val Leu Phe Val Asp 115 120 125

Ser Val Gly Leu Pro Ala Pro Pro Arg Val Ile Lys Ala Arg Gly Gly 130 135 140

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	Ile	Ser	Asp	Phe	Leu 165	Arg	His	Glu	Leu	Arg 170	Tyr	Gly	Pro	Thr	Asp 175	Ser
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·	Cys	Cys	Pro 195	Thr	Leu	Trp	Met	Pro 200	Asn	Pro	Val	Pro	Val 205	Leu	Asp	Gln
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	Phe 225	Leu	Thr	Val	Lys	Gly 230	Gly	Ser	Cys	Leu	Val 235	Ser	Gly	Leu	Gln	Ala 240
	Ser	Lys	Ser	Tyr	Trp 245	Leu	Gln	Leu	Arg	Ser 250	Gln	Pro	Asp	Gly	Val 255	Ser
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	Pro	Gly	Asp 275	Ala	Val	Thr	Ile	Gly 280	Leu	Gln	Cys	Phe	Thr 285	Leu	Asp	Leu
	Lys	Met 290	Val	Thr	Cys	Gln	Trp 295	Gln	Gln	Gln	Asp	Arg 300	Thr	Ser	Ser	Gln
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Pro Ser Leu His Trp Arg Glu Val Ser Ser Gly Arg Leu Glu Leu Glu 390 . 395 Trp Gln His Gln Ser Ser Trp Ala Ala Gln Glu Thr Cys Tyr Gln Leu Arg Tyr Thr Gly Glu Gly Arg Glu Asp Trp Lys Val Leu Glu Pro Ser Leu Gly Ala Arg Gly Gly Thr Leu Glu Leu Arg Pro Arg Ala Arg Tyr Ser Leu Gln Leu Arg Ala Arg Leu Asn Gly Pro Thr Tyr Gln Gly Pro Trp Ser Ala Trp Ser Pro Pro Ala Arg Val Ser Thr Gly Ser Glu Thr Ala Trp Ile Thr Leu Val Thr Ala Leu Leu Leu Val Leu Ser Leu Ser Ala Leu Leu Gly Leu Leu Leu Lys Trp Gln Phe Pro Ala His Tyr Arg Arg Leu Arg His Ala Leu Trp Pro Ser Leu Pro Asp Leu His Arg Val Leu Gly Gln Tyr Leu Arg Asp Thr Ala Ala Leu Ser Pro Ser Lys Ala Thr Val Thr Asp Ser Cys Glu Glu Val Glu Pro Ser Leu Leu Glu Ile Leu Pro Lys Ser Ser Glu Ser Thr Pro Leu Pro Leu Cys Pro Ser Gln Pro Gln Met Asp Tyr Arg Gly Leu Gln Pro Cys Leu Arg Thr Met Pro Leu Ser Val Cys Pro Pro Met Ala Glu Thr Gly Ser Cys Cys Thr

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<223> "X" is any amino acid
<220>
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<223> representing residues 585 to 588 of the GM-CSF/IL-3/IL-5 receptor
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Ser Xaa Xaa Asp
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